Amendments to the Specification

Please replace the paragraph starting at page 7, line 13 of the specification with the following amended paragraph:

Still referring to **FIG. 1**, the photon beam flux monitor **130** includes three detection devices including an array of fission-fragment detectors (Parallel-Plate Avalanche Detectors or PPADs) **135** followed by two sets of scintillator paddles (telescopes) **140** and **150** with a convertor **145** in between, wherein each scintillator is sensitive to a different range of photon energies. In one embodiment, the convertor **145** is a lead (Pb) convertor. The first set of scintillator paddles **140** may detect materials of low atomic number (low Z) by resolving ~~fission-fragment~~ photon energies up to about 6 MeV, and the second set of scintillator paddles **150** may detect materials of high atomic number (high Z) by resolving photon energies exceeding about 6 MeV. In other embodiments, different energy ranges may be desirable.

Please replace the paragraph starting at pg. 11, line 5 of the specification with the following amended paragraph:

Still referring to **FIG. 3**, the grid wires **220** may be attached to the anode frame **225** with epoxy glue. Exposed areas are covered with a layer of epoxy glue, and the high voltage connectors are encapsulated in plastic cases. The PPAD **200** may be tuned to uranium by having the target **210** made of, for example, a thin film of ^{238}U deposited on one side of an approximately 100 [[p]]μm thick aluminum foil. The target **210** may also be, for example, an approximately 178 micron thick film of ^{238}U. In one embodiment, the invention includes using targets **210** of different materials to tune the PPAD **200** to a corresponding range of energies. The ability to tune the PPAD **200** allows detection of materials of varying atomic numbers.